

ZARNIC, Dr. Ivan

"Salt Vaccine against Newcastle Disease Prepared from Mukteswar Strain." Dr. Marko Zeljko & Dr. Ivan Zarnic, - Vets. & scientific collaborators of the Inst. for Vet. & Medical Researches, Zagreb.

SOURCE: Vet., BROJ 8-9-10, p. 788, 1952

ZARNIC, Dr. Ivan

"Adsorbate Vaccine Against Swine Erysipelas." Dr. Ivan Zarnic - Vet. & scientific collaborator of Inst. for Vet. & Med. Researches in Zagreb (Director, Ass. Prof. Dr. Matija Winterhalter ).

SOURCE: Vet. SVEZAK 1, p. 93, 1953

SEMEENOV, A.D., prof., otv. red.; GOL'DSHTEYN, M.M., prof. red.;  
ZARNITSKAYA, B.M., red.; ZARNITSKAYA, B.M., starshiy nauchn.  
soтрудnik, red.; KUZNETSOVA, S.M., red.; RABINOVICH, A.M.,  
prof., red.; CHAYKA, V.V., doktor med. nauk, red.; ZAGRA-  
NICHENYY, B., tekhn. red.

[Transactions of the Leningrad Tuberculosis Research  
Institute; problems in the clinical aspects of tubercu-  
losis] Voprosy kliniki tuberkuleza; trudy instituta. Le-  
ningrad, 1960. 272 p. (MIRA 14:5)

1. Leningrad. Leningradskiy nauchno-issledovatel'skiy institut.
2. Rukovoditel' podrostkovogo otdeleniya Leningradskogo gosudarstvennogo nauchno-issledovatel'skogo instituta tuberkuleza (for Goldshteyn).
3. Rukovoditel' fizioterapevticheskogo otdeleniya Leningradskogo gosudarstvennogo nauchno-issledovatel'skogo instituta tuberkuleza (for Zarnitskaya).
4. Rukovoditel' rentgenologicheskogo otdeleniya Leningradskogo gosudarstvennogo nauchno-issledovatel'skogo instituta tuberkuleza (for Rabinovich).
5. Rukovoditel' laboratorii klinicheskoy fiziologii Leningradskogo gosudarstvennogo nauchno-issledovatel'skogo instituta (for Chayka)

(TUBERCULOSIS)

ZARNITSKAYA, B.M., starshiy nauchnyy sotrudnik; KHARCHEVA, K.A., dotsent

Functional disorders of the nervous system in pulmonary tuberculosis;  
based on data from an overall study. K izuch. roli nerv. sist. v pat.,  
immun. i lozh. tub. no. 2:84-91 '61. (MIRA 15:10)

1. Iz otdeleniya fizioterapii (zav. - B.M. Zarnitskaya) i kafedry  
legochnogo tuberkuleza Gosudarstvennogo instituta dlya  
usovershenstvovaniya vrachey (zav. - prof. A.D. Semenov).  
(TUBERCULOSIS) (NERVOUS SYSTEM)

ZARNITSKAYA, B.M., kand.med.nauk

Aerosol therapy in pulmonary tuberculosis. Probl.tub. 36  
no.7:70-75 '58. (MIRA 12:8)

1. Iz Leningradskogo instituta tuberkuleza (dir. - prof.A.D.  
Semenov). (AEROSOL THERAPY) (TUBERCULOSIS)

L 8610-66 ENT(d)/EXP(1) IJP(c) BB/GG

ACC NR: AR5014365

SOURCE CODE: UR/0271/65/000/005/B057/B058

SOURCE: Ref. zh. Avtomatika, telemekhanika i vychislitel'naya tekhnika.  
Svodnyy tom, Abs. 5B422

AUTHOR: Breydo, M. D.<sup>44</sup>; Goncharov, A. M.<sup>44</sup>; Zheglova, N. V.<sup>44</sup>  
Zarnitsyn, G. D.<sup>44</sup>; Kotel'nikov, I. V.<sup>44</sup>; Moshkina, T. V.<sup>44</sup>; Tarantovich, A. S.<sup>44</sup>

TITLE: TEVM digital computer

CITED SOURCE: Tr. po vopr. primeneniya elektron. vychisl. mashin v nar.  
kh-va. Gor'kiy, 1964, 171-173

TOPIC TAGS: digital computer, industrial digital computer

TRANSLATION: The TEVM digital computer is intended for planning operation and route flowsheets on the basis of developed algorithms and for other functions connected with processing. The necessity of storing the characteristics of the product is a special feature of the machine; the volume of this information is rather large. The TEVM machine has three addresses and operates on a fixed-

Card 1/2

UDC: 681.142.343

L 8610-66  
ACC NR: AR5014365

after-18-digit-point system. There are 48 digits in a word (one number or one instruction). An operation code takes 6 digits. Special routine also takes 6 digits; the balance is divided among the three addresses. The computer has 4 types of storage: (1) an internal magnetic storage for 512 words with an access time of 6 microsec; (2) an intermediate magnetic-drum storage for 1024 words with an average access time of 10 millisec; (3) a nonvolatile magnetic-drum storage for information readout with a capacity of 2048 words and an average access time of 10 millisec; (4) a magnetic tape of 100 000-word capacity. The working frequency of the computer is 25 kc; the synchronization depends on the magnetic drum. A total of 39 instructions can be carried out, and the average speed is 1500 operations per sec. The adder is of the trigger-register type with a high-speed carry, no shift. Data photo input reads from a telegraph tape; manual keyboard input is also provided. A 20-number-per-sec output uses a printer. The computer comprises 4000 transistors and takes 3 kw. It occupies an area of 15 m<sup>2</sup>. Bib. 7, fig. 1.

SUB CODE: 09

Card 2/2 jrn

ZARNITSKIY, G.E., kand.tekhn.nauk, dotsent

Use of the excess potential energy of natural gas for production  
of electric power and refrigeration. Izv. vys. ucheb. zav.;  
energ. 6 no.2:77-86 F '63. (MIRA 16:3)

1. Krasnodarskiy filial Vsesoyuznogo zaochnogo inzhenerno-stroitel'nogo instituta.  
(Gas, Natural) (Refrigeration and refrigerating machinery)  
(Electric power)

ZARNITSKIY, G.E., dotsent, kand.tekhn.nauk

Thermodynamic properties and I-S diagram for normal butane.  
Izv. vys. ucheb. zav.; energ. 3 no. 7:88-96 J1 '60. (MIRA 13: 8)

1. Krasnodarskiy institut pishchevoy promyshlennosti.  
(Butane---Thermal properties)

ZARNITSKIY, G.E.; KONOVALOV, V.A.; KORABLIN, V.V.

Investigation of the operation of a starting turbine in gas-distributing station No.4 in Krasnodar. Gaz. delo no.9:9-13  
'63. (MIRA 17:8)

1. Krasnodarskiy filial Vsesoyuznogo zaochnogo inzhenerno-stroitel'nogo instituta i Gazopromyshlovoye upravleniye No.1.

ZARNITSKIY, G.B.

~~Prospects for the use of gas turbines in oil and fat plants.~~  
Trudy KIPP no.16:157-160 '57. (MIRA 12:7)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Mekhanicheskii fakul'tet, kafedra energetiki.  
(Gas turbines)

*ZARNITSKIY, G.E.*

USSR/Chemical Technology - Chemical Products and Their  
Application. Fats and Oils. Waxes. Soap. Detergents.  
Flotation Reagents.

I-10

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2687

Author : Zarnitskiy, G.E., Kopeykovskiy, V.M., Troyanova, N.L.,  
Shcherbakov, V.G.

Inst : Krasnodar Institute of the Food Industry

Title : Steam Expenditures and Ways of Increasing the Heat-Utiliza-  
tion Coefficient in Oil-Extracting Plants.

Orig Pub : Tr. Krasnodarsk. in-ta pishch. prom-sti, 1956, No 14, 75-80

Abstract : Different operating conditions of distillation columns of  
oil-extracting plants were studied. It was found that  
when the rate of miscella feed is increased up to 8.7-9.3  
m<sup>3</sup>/hour, steam consumption is reduced *gy 8%*; in this man-  
ner, in the extraction department of a plant that

Card 1/2

USSR/Chemical Technology - Chemical Products and Their  
Application. Fats and Oils. Waxes. Soap. Detergents.  
Flotation Reagents.

I-10

Abs Jour : Ref Zhur - Khimiya, No 1, 1958, 2687

processes 400 tons of sunflower seed per day, a saving of  
718 tons of nominal fuel is effected on the yearly basis.

Card 2/2

ZARNITSKIY, G.M.; MATVEYEV, V.P.

energy expenditure indices of equipment used for continuous  
production of soap in a vacuum. Izv. vys. ucheb. zav.; pishch.  
tekh. no.1:87-91 '58. (MIRA 11:8)

1. Krasnodarskiy institut pishchevoy promyshlennosti, Kafedra ener-  
getiki.

(Soap industry)

ZARNITSKIY, G.E.  
ZARNITSKIY, G.E., kand. tekhn. nauk.

Heat supply for plants of the oil and fat industry. Masl.-zhir. prom.  
23 no.8:35-38 '57. (MIRA 10:12)

1. Krasnodarskiy institut pishchevoy promyshlennosti.  
(Oil industries---Equipment and supplies) (Heat engineering)

ZARNITSKIY, G.N., kandidat tekhnicheskikh nauk; KOPEYKOVSKIY, V.M., kandidat tekhnicheskikh nauk; TROYANOVA, N.L., inzhener; SHCHERBAKOV, V.G., inzhener.

Ways of increasing the heat utilization coefficient in oil extraction plants. Masl.-zhir.prom. 21 no.2:26-28 '56. (MLRA 9:7)

1.KIIP.  
(Extraction apparatus)

SIDOROV, N.A.; GRIGOR'YEV, V.I.; ZARNITSKIY, G.E.

Temperatures of casing columns during well exploitation. Trudy  
KF VNII no.5:126-137 '61. (MIRA 14:10)  
(Oil well casing)

PAVLOVICH-VOLKOVYSKIY, A.G.; ZARNITSKIY, S.Kh.

Obtaining high-quality calcium fluoride from gases of superphosphate  
production. Ukr.khim.shur. 24 no.6:805-808 '58. (MIRA 12:3)  
(Calcium fluoride)  
(Phosphate industry--By-products)

5 (2)

AUTHOR:

Zarnitskiy, S. Kh.

SOV/32-25-6-13/53

TITLE:

Formaldehyde Method for the Determination of Sulphuric Acid in Waste Gases of Sulphuric Acid Production (Formal'degidnyy metod opredeleniya sernoy kisloty v khvostovykh gazakh sernokislotnogo proizvodstva)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 6, pp 677-678 (USSR)

ABSTRACT:

To determine minute droplets of sulphuric acid in waste gases of sulphuric acid production it is necessary to use an inhibitor to prevent oxidation of the  $SO_2$  to  $SO_3$ , as otherwise higher analytical results would be obtained. Publications recommend for this purpose the use of a 0.1 % hydroquinone solution. It was observed, however, that inhibition proceeds very slowly. Owing to this reason, a formaldehyde solution was applied in the case under review. This method was tested on synthetic mixtures and industrial gases. Two experimental series were made in this connection. In the first case a certain amount of sulphuric acid was added to the formaldehyde solution,  $SO_2$  and  $N_2O_3$  were passed through, and the content of sulphate was then determined according to the

Card 1/2

Formaldehyde Method for the Determination of Sulphuric Acid in Waste Gases of Sulphuric Acid Production

SOV/32-25-6-13/53

chromatic method (Table 1). In the second case the industrial gases were passed through two flasks - the first one containing a 3 % hydrogen peroxide solution and the second a 5 % formaldehyde solution - and the content of nitrogen oxides was then determined in both flasks (Table 2). The method yields reliable results at a content of up to 2 %  $\text{SO}_2$  and  $\text{N}_2\text{O}_3$ . There are 2 tables.

ASSOCIATION: Vinnitskiy superfosfatnyy zavod (Vinnitsa Superphosphate Plant)

Card 2/2

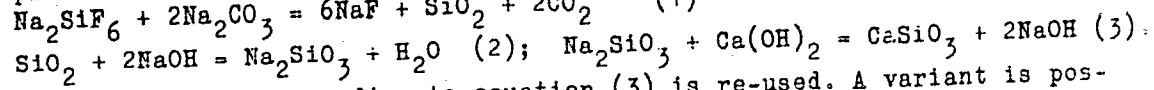
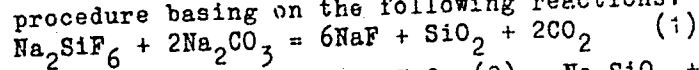
S/073/60/026/001/019/02  
B004/B054

AUTHOR: Zarnitskiy, S. Kh.

TITLE: Method of Producing High-quality Sodium Fluoride

PERIODICAL: Ukrainskiy khimicheskiy zhurnal, 1960, Vol. 26, No. 1,  
pp. 121-125

TEXT: The usual method of producing NaF by suspension of  $\text{Na}_2\text{SiF}_6$  in soda solution yields a product of at most 75% NaF contaminated with  $\text{SiO}_2$ . A concentration to 95% NaF is subject to high losses. The author suggests a procedure basing on the following reactions:



NaOH regenerated according to equation (3) is re-used. A variant is possible in which the sodium silicate of equation (2) directly reacts with sodium fluorosilicate:  $3\text{Na}_2\text{SiO}_3 + \text{H}_2\text{SiF}_6 = 6\text{NaF} + 4\text{SiO}_2 + \text{H}_2\text{O} \quad (4)$ ; and

Card 1/2

Method of Producing High-quality  
Sodium Fluoride

S/073/60/026/001/019/02:  
B004/B054

$2\text{NaF} + \text{Ca}(\text{OH})_2 = \text{CaF}_2 + 2\text{NaOH}$  (5).  $\text{CaF}_2$  and  $\text{CaSiO}_3$  can be used as fillers in the rubber industry. The NaF yield is 83-92%. To obtain  $\text{CaSiO}_3$  suitable as a filler with low contamination by  $\text{Na}_2\text{O}$ , it is necessary to use either 6-10% NaOH and solid  $\text{Ca}(\text{OH})_2$ , or slaked lime and 20-25% NaOH. In the latter case, the NaF yield is higher. The filtering rate of  $\text{CaSiO}_3$  and  $\text{CaF}_2$  can be increased to  $4 \text{ m}^3/\text{h}$  per  $1 \text{ m}^2$  of filter by adding 10% oleyl dimethyl amine. In operating with dry  $\text{CaO}$ , 1100 kg of water must be evaporated per 1 ton of 98% NaF. The concentration of other difficultly soluble fluorides containing  $\text{SiO}_2$  as impurity is possible in the same way. The author thanks G. I. Mikulin for a discussion. There are 2 tables and 1 Soviet reference.

ASSOCIATION: Vinnitskiy superfosfatnyy zavod (Vinnitsa Superphosphate Plant)

SUBMITTED: December 30, 1958

Card 2/2

ZARNITSKIY, S. Kh.

Analysis of gases from the manufacture of sulfuric acid.  
Zav.lab. 27 no.2:138-139 '61. (MIRA 14:3)

1. Vinnitskiy superfosfagnyy zavod.  
(Sulfuric acid)  
(Cases—Analysis)

ZARNITSKIY, Ya.; POLEV, Yu.

Motortruck with freight lifting tail gate. Avt. transp. 41  
no.9:42-44 S '63. (MIRA 16:10)

1. Gor'kovskiy avtomobil'nyy zavod.

ZARNITSKII, Ya., iznh.

Proper door fitting on the "Volga" automobile. Avt. transp. 41  
no. 2:18-19 F '63. (MIRA 1622)

(Automobiles---Bodies)

ZARNITSKIY, YA. M.  
USSR/Miscellaneous - Metallurgy

Card 1/1

Author : Zarnitskiy, Ya. M.  
Title : Design of a Drop Hammer without a Projecting Edge  
Periodical : Stan. i Instr. Ed. 1, 38, Jan/1954  
Abstract : A brief description is given of a drop hammer without a projecting edge. Approximately 8000 pieces were forged by means of this hammer before it became clogged. The author also states that, whereas, in the drop hammer equipped with the projecting edge the weight of the moving parts is 2000 kg, the weight of the same parts in a hammer without the projecting edge is only 750 kg.  
Drawings.

Institution : .....

Submitted : .....

ZARNITSKIY, Ya.M.; POLEV, Yu.M.

Body and cab door locks for GAZ automobiles. Avt. prom. no. 1:5-7  
Ja '61. (MIRA 14:4)

1. Gor'kovskiy avtozavod.  
(Locks and keys) (Automobiles—Equipment and supplies)

ZARNITSKIY, Ya.M.

Hammer stamp without a burr bridge. Stan.i instr. 25 no.1:38  
Ja '54. (MLRA 7:2)  
(Punching machinery)

ZARNITSKAYA, B.M., kand.med.nauk

Effect of resection of the lung on cardiac function in tuberculous patients according to electrocardiographic data. Probl.tub. 37 (MIRA 13:2) no.6:48-55 '59.

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza (direktor - A.D. Semenov).  
(PNEUMONECTOMY eff.)  
(ELECTROCARDIOGRAPHY)

L 00374-66 EWT(d)/EED-2/EWP(1) IJP(c) BB/GG

ACCESSION NR: AR5013965

UR/0284/65/000/005/0007/0007  
621:65.011.56

SOURCE: Ref. zh. Voprosy tekhnicheskogo progressa i organizatsii proizvodstva v mashinostroyenii. Otd. vyp., Abs. 5.35.63

AUTHOR: Breydo, M. D.<sup>44</sup>; Goncharov, A. M.<sup>44</sup>; Zheglova, N. V.<sup>44</sup>; Zarnitsyn, G. D.<sup>44</sup>  
Kotel'nikov, I. V.<sup>44</sup>; Moshkina, T. V.<sup>44</sup>; Tarantovich, A. S.<sup>44</sup>

TITLE: TEVM digital computer

CITED SOURCE: Tr. po vopr. primeneniya elektron. vychisl. mashin v nar. kh-vo. Gor'kiy, 1964, 171-173

TOPIC TAGS: digital computer, triple address system, computer design, computer performance range / TEVM computer, TEVM digital computer

TRANSLATION: The TEVM digital computer was designed for calculations used in planning production technology, including the process and routing of flowsheets based on pre-evolved algorithms. It is characterized by a requirement for storage of a number of element symbols in its memory system. It represents a triple address unit and operates on a system with a comma fixed after 18 digits. The total number of digits in a term is 48 (one number or one command). The operation code is expressed by 6 digits, another 6 digits are used

Card 1/2

I. 00374-66

ACCESSION NR: AR5013965

for recording special instructions and the remaining digits are divided between three addresses. The unit is equipped with four memory systems: 1) a magnetic operating memory, capacity 512 terms, rotation period 6 msec; 2) an intermediate memory on a magnetic drum, capacity 1024 terms, average rotation period 10 msec; 3) permanent memory on a magnetic drum, capable of data readout only, capacity 2048 terms, average rotation period 10 msec; 4) magnetic tape with a capacity of 100,000 terms. The computer operates on a frequency of 25 kc, power consumption is 3 kw, output rate 20 terms/sec. A total of 39 commands can be performed; the unit operates at an average speed of 1500 operations per second. The unit employs semiconductors (4000 triodes), an integrator in the form of a trigger register with a continuous carry and without provision for shifts and a data input system either from a manual keyboard or via a tape reading photinput system. The unit occupies 60 m<sup>2</sup>. Bibl. with 7 titles, 1 illustration. N. S.

SUB CODE: DP

ENCL: 00

Card *BP*  
2/2

ZARNITSYN, S.M. (Perm')

Defectless repair of locomotives. Zhel. dor. transp. 47 no.5:55-57  
My '65. (MIRA 18:6)

I. Glavnyy inzh. Ikhodil'nogo depo Perm' II Sverdlovskoy dorogi.

ZARNITSYN, V.I.

Safety guards for swing saws. Der.prom.5 no.8:21 Ag '56.  
(KILBA 9:10)

1.Kiyevskiy derevoobrabatyvayushchiy kombinat.  
(Saws--Safety appliances)

GARASEVICH, G.I., inzhener; ZARNITSYN, V.I.

Jointing machine for automatic lines. Der.prom.5 no.11:22-23  
H '56. (MIRA 10:1)

1. Kiyevskiy derevoobrabatyvayushchiy kombinat.  
(Woodworking machinery)  
(Joinery)

ZARNITSYN, V.I.

Cutting tool for parquet borders. Der.prom.5 no.4:22 Ap '56.  
(MIRA 9:7)

1.Kiyevskiy derevesbrabatyvayushchiy kombinat.  
(Woodworking machinery)

ZARNOCH, J., mgr inz.

Selection of torsional vibration dampers for Polish-made traction engines based on measurements of torsional vibrations of crankshafts. Techn motor 12 no. 4/5: 109-110 Ap-May '62.

1. Biuro Konstrukcyjne Przemyslu Motoryzacyjnego, Warszawa.

PESCHEW, P. D. [Peshev, P. D.]; ZARNORETSCHKI, O. St. [Tšurnorechki, O.]

Investigation of raw material for obtaining ferrite with rectangular hysteresis loop. Doklady BAN 14 no.7:707-710 '61.

1. Wissenschaftliches Forschungsinstitut für Kinematographie und Radio.

(Raw materials) (Ferrite) (Hysteresis)

PERCHEN, P.D. [Poshev, P.D.]; ZARNORETSCHKI, O. St. [TSyrmorechki, O.St.];  
ARSHINKOV, Iv.St. [Arshinkov, Iv.St.]

Preparation of needle-forming gamma iron oxides. Doklady BAN 15  
no.1:53-56 '62.

1. Wissenschaftliches Forschungsinstitut für Kinematographie und  
Radio. Vorgelegt von Akademiemitglied R.Kaischew [R. Kaishev].

S/081/62/000/005/006/112  
B158/B110

AUTHORS: Zarnoretschki, O. St., Paschew, P. D.

TITLE: Differential thermal analysis of raw material for preparation  
of magnetostable oxide materials

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 52, abstract  
5B331 (Dokl. Bolg. AN, v. 13, no. 5, 1960, 563 - 566)

TEXT:  $\text{FeC}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ ,  $\text{CoC}_2\text{O}_4 \cdot 2\text{H}_2\text{O}$ ,  $\text{BaC}_2\text{O}_4$ , and a number of coprecipitated  
iron-cobalt and iron-barium oxalates are studied by a thermographic method.  
It is established that the coprecipitated iron-cobalt oxalates behave as  
double salts, dehydrating and decomposing at a higher temperature than  
pure oxalates. The iron-barium oxalates behave as mechanical mixtures.  
[Abstracter's note: Complete translation.]

Card 1/1

94, 2200

S/196/62/000/017/003/005  
E194/E155

AUTHORS: Peschew, P.D., and Zarnoretschki, O.St.  
TITLE: An investigation of raw materials for producing  
ferrites of rectangular hysteresis loop  
PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika,  
no.17, 1962, 4, abstract 17 B 26. (Dokl. Bolg. AN,  
v.14, no.7, 1961, 707-710). (German; summary in Russ.).  
TEXT: The thermographic characteristic in the temperature  
range of 20 to 1100 °C is given for copper-manganese-iron,  
nickel-manganese-iron and cobalt-manganese-iron oxalates. It is  
established that copper-manganese-iron and some cobalt-manganese-  
iron oxalates, when co-precipitated, form mechanical mixtures. The  
remaining part of the cobalt-manganese-iron and nickel-manganese-  
iron oxalates form mixed crystals and can be used for the low-  
temperature production of ferrites. 3 illus., 9 references.  
ASSOCIATION: Nauchno-issledovatel'skiy in-t kinematografii i  
radiotekhniki, NRB (Scientific Research Institute for  
Cinematography and Radio-engineering, Bulgarian People's  
Republic).  
Card 1/1  
[Abstractor's note: Complete translation.]

ZAROVCHATSKIY, V., kapitan, master sporta SSSR

In the vanguard of an airborne landing. Av. 1 kosm. 48  
no.12:39-42 D '65. (MIRA 18:11)

Distr: AB3d

Pierwszy w Polsce Reaktor Jądrowy (The First Polish Nuclear Re-  
actor), by L. Labno and K. Eznouiecki; Warsaw, 1958, 106 pp

This booklet describes the construction and operation of the first nuclear reactor in Poland of Soviet production. It was built for experi- mental purposes, for scientific research, and for the production of arti- ficial radioactive isotopes.

The reactor is of the tank type. It is immersed in a large aluminum tank filled with distilled water. The primary coolant is water and it is water-moderated. The fuel is 10% enriched uranium. The critical uranium weight is a few tens of kilograms. The fuel elements consist of thin tubular rods clad in aluminum. The rods are half a meter long and form a regular lattice of 17.5-mm spacing. The full charge consists of 800 rods containing 65 kg of uranium (hence 6.5 kg of U-235). For easier charging the rods are arranged in 52 clusters, suspended in aluminum matrices with 16 rods each. The clusters are set in a cage of aluminum, securing flow passage of the coolant between the rods. Nine holes run through the cage for control and safety rods. Around the core 8 isotope tunnels are built. In the core a neutron flux of  $2 \cdot 10^{13}$  neutron/sec/cm<sup>2</sup> is produced; in the vicinity of the tunnels the flux is lower. But flux losses are not high, because the water inside the core serves also as reflector. Although the power of the reactor is only 2,000 kw, which is not much in comparison

L. LEBNO and K. ZARNOWIECKI  
with plutonium producing reactors, the neutron flux of  $2 \cdot 10^{13}$  is rather high. This paradox may be explained if we keep in mind that the whole power is released in a volume of 0.1 m<sup>3</sup>.

Besides the vertical tunnels for isotope production, nine horizontal experimental channels surround the core radially. They permit the extraction of gamma radiation or neutrons from the core for experimental purposes. These channels are opened or closed by remote control. A tenth channel is a thermal column filled with graphite and intended to provide strong thermal neutron beams.

A water circulation system serves for heat removal from the core. The water heated in the core is sucked out by three pumps of 120 kw power and a flow rate of 1,000 m<sup>3</sup>/hr. After passing heat exchangers the water is pumped back into the core. In the heat exchanger a second water loop cools the water. The second water loop is cooled in a sparge tank.

TH  
The cooling loops keep the water in the core at a temperature of 35°C, while the surface of the fuel elements have a temperature of 90°C. Such a low temperature does not produce deterioration of the fuel elements. To avoid the contamination of water by impurities, the cooling systems, the tubes, the pumps, the exchangers, and valves are made of stainless steel containing about 20% chromium and 10% nickel. The structural material used in the core is aluminum, which is resistant to activation by neutrons.

27314

P/046/60/005/011/003/018  
D249/D303

21/1000

AUTHORS:

Zarnowiecki, Krzysztof, and Szulc, Przemysław

TITLE:

A photoneutron source for the start-up process in the WWR-S reactor

PERIODICAL: Nukleonika, v. 5, no. 11, 1960, 705 - 711

TEXT: A photoneutron source yielding  $10^7 - 10^8$  n/sec is described which reduces the starting-up time of the reactor when placed in the core. A strong beam of  $\gamma$ -radiation and a sufficient amount of a neutron emitter are necessary. Energy of the  $\gamma$ -rays must exceed the threshold energy of the  $(\gamma, n)$  reaction for the selected material which is commonly Be or  $D_2O$ . In the present work, the source consisted of Be irradiated by  $\gamma$ -radiation from the fission products of uranium. The beryllium was held in Al containers 12 mm with 1 mm walls, 55.5 cm long, closed at both ends with Al stoppers, rolled and welded under argon to ensure a tight seal. A few sources were constructed, each Al tube being packed with  $\sim 20$  g of Be

Card 1/6

27314

P/046/60/005/011/003/018  
D249/D303

A photoneutron source for the ...

flakes which were then rammed in. Precautions were taken to avoid the toxic effects of Be dust. Sb powder, ( $\sim 60$  g), which constituted an additional source of  $\gamma$ -radiation of half-life equal to 60 days and of activity  $\sim 100$  c, was added to each tube to fill the voids between the flakes of Be. The effects of these additions are negligible when the reactor is started up, but the activity of Sb decays at a slower rate than that of the fission products after reactor shut-down and thus prolongs the life of the source. Effective yields,  $S_{ef}$ , are defined as the number of neutrons emitted by the source per second, which actually cause U fission. Maximum values of  $S_{ef}$  are obtained soon after the reactor is shut down (Fig. 2). Approximately 20 min. after shut-down the  $(\gamma, n)$  reaction of fission products  $^{87}\text{Br}$  and  $^{137}\text{I}$  dies out and the Sb-Be reaction becomes dominant. The yield decreases more slowly thereafter, reaching values of  $\sim 5 \times 10^8$  and  $6 \times 10^7$  n/sec after 1 and 10 hours respectively.  $S_{ef}$  was determined by measuring the "zero" power level of a shut-down sub-critical reactor of a known multiplication coef-

Card 2/6

27314

P/046/60/005/011/003/018  
D249/D303

A photoneutron source for the ...

efficient, ( $k_{ef} < 1$ ), with  $BF_3$  counters placed in the channels of the thermal column. Counter readings were transformed into reactor power units by comparison (at power levels of the order of 100 mW) with the current of the starting-up ionization chamber which is proportional to the thermal power of the reactor. Total neutron yields of the source ( $S_c$ ) were not determined, as this would entail calculating the probabilities of preventing the escape of fast thermal neutrons and of avoiding resonance absorption, and also calculating the efficiency of utilizing the thermal neutrons.  $S_{ef}$  is estimated as a half of  $S_c$ . "Zero" power level of a shut down reactor, in watts, (P), is related to the effective yield by the equation  $\frac{S_{ef}}{1 - k} = Pc$ , where k is the multiplication coefficient of a sub-critical reactor and c is a proportionality coefficient equal to  $3.1 \times 10^{10}$  n/W. It was found that under normal conditions, (starting up over 10-100 hours after a previous working period of 65-100 hrs)

4

Card 3/6

2731h

P/046/60/005/011/003/018

D249/D303

A photoneutron source for the ...

when  $k_{ef}$  was 0.93, the "zero" power of the reactor was 10-50 mW and  $S_{ef}$  was  $2 \times 10^7 - 10^8$  n/sec. The method of calculating the neutron yields is presented in detail, and specific values are used to show good agreement between the calculated and the experimental values. Neutron emission from  $D_2$  in water contained in the reactor was found to be negligible compared to that from the photoneutron source, at the time of the experiment, i.e. a number of hours after shutting the reactor down. There are 2 figures and 6 non-Soviet-bloc references. The four most recent references to the English-language publications read as follows: D.J. Hughes, Pile Neutron Research, Cambridge Mass., 1953; T. Rockwell, III Reactor Shielding Design Manual, Princeton, N. Jersey, 1956; I.M. Hollander, I. Perelman and G.T. Seaborg, Table of isotopes, Revs. Modern Phys. 25, 469, 1953; B.T. Price, M.A. Horton, and K.T. Spinney, Radiation Shielding, London, 1957. X

ASSOCIATION: Instytut badań jądrowych, Warszawa, zakład eksploatacji reaktora (Nuclear Research Institute, Warsaw, Reactor Exploitation Department)

Card 4/6

P/046/62/007/006/003/005  
D204/D307

AUTHORS: Bieguszewski, Zygmunt, Zarnowiecki, Krzysztof, and  
Kostyrko, Andrzej

TITLE: Characteristics of the ion-exchange unit in the pri-  
mary cooling system of the 'Ewa' reactor

PERIODICAL: Nukleonika, v. 7, no. 6, 1962, 407 - 417

TEXT: The performance of mechanical and ion-exchange filters is described, particular attention being paid to the ionite unit which had been used successfully over 18 months, operating for 1-2 hours 2-3 times a month. The mechanical porous glass filter was used to remove colloids and macro-molecular compounds from the water and the deposits were found to contain extremely fine particles of the anionite (from the ionite unit), Fe and Al hydroxides and silica, i.e. coagulated corrosion products of the primary cooling system. The filter was cleaned 2-3 times a year, by repeated successive washing with  $H_2SO_4$  and NaOH and finally with deionized water. The ion-exchange filter was produced with a mixture of strongly acidic

Card 1/3

Characteristics of the ion-exchange ... P/046/62/007/006/003/005  
D204/D307

cationite MK-3 and strongly basic anionite IMAK-S4, and was used only when the reactor was not in operation. The flow of water through the unit was 7-10 m<sup>3</sup>/hr, at ~ 25°C. The resin bed was changed after 18 months although no difficulties had been observed after this period. The new packing consisted of MK-3 and IMAK-S4, washed previously with 1N HCl and 1N NaOH and mixed in the ratio of 5:6.5 by volume. The resultant packing was extremely effective and could be used for only ~ 5 hours every 1-2 months. The original packing was analyzed, by spectroscopy, for radioactive contamination, 12 months after removal from the unit. The original activities of the mechanically separated resins could be largely reduced by a treatment with aq-NaCl, washing with water, regeneration with an acid or alkali and washing with water again. The resins fully maintained their physical and chemical properties and working exchange after regeneration. After separation of the resins in saturated aq. NaCl regeneration, the anionite retained a greater activity than the cationite, owing to the adsorbed cations complexing in the separating solution, to form negatively charged ions which were then adsorbed on the anionite. The spectroscopic measurements were carried out by L. Adamski and S. Pszon. There are 3 tables.

Card 2/3

Characteristics of the ion-exchange ... P/046/62/007/006/003/005  
D204/D307

ASSOCIATION: Instytut badań jądrowych, PAN (Institute of Nuclear  
Research, PAS)

SUBMITTED: April 1962

Card 3/3

40065  
P/046/62/007/006/005/005  
D204/D307

21.6000  
AUTHORS:

Kostyrko, Andrzej, Wiśniewski, Artur, and  
Żarnowiecki, Krzysztof

TITLE:

A method of preparation of scintillating ZnS layers  
for detecting  $\alpha$ -particles

PERIODICAL: Nukleonika, v. 7, no. 6, 1962, 425 - 429

TEXT: The described method was aimed at producing  $\alpha$ -detectors possessing the highest possible efficiency. Scintillator layers of predetermined, even thickness ( $2-20 \text{ mg/cm}^2$ ) with the correct grain distribution may be successfully prepared by sedimentation. The resulting delicate coatings (deposited on methyl polymethacrylate) are best bonded firmly onto the base by exposing the coatings to chloroform vapor, which dissolves the outermost layer of the plexiglass. As a result the scintillating layer sinks in to a shallow depth, so that the top of the layer remains perfectly free of the bonding agent. The best results were obtained with Grade 256/1 ZnS, produced by Derby of Gt. Britain, deposited to a thickness of  $4 \text{ mg/cm}^2$  on an organic glass base. The optimum performance was obtained.

Card 1/2

A method of preparation of ...

P/046/62/007/006/005/005  
D204/D307

served when the discrimination was made high. The relative output and amplitude of the light signal were high. The method, which may be used on laboratory or industrial scale, and which is simple, inexpensive and reproducible, will be protected by a patent. There are 6 figures. ✓

ASSOCIATION: Instytut badań jądrowych, PAN, Warsaw (dział dozymetrii) (Institute of Nuclear Research, PAS, Warsaw (Dosimetry Section))

SUBMITTED: April 1962

Card 2/2

KOSTYRKO, Andrzej; PSZONA, Stanislaw; ZARNOWIECKI, Krzysztof

Method of producing standard sources of contaminations for the calibration of dosimetric instruments. *Nukleonika* 7 no.6:428-429 '62.

1. Instytut Badan Jadrowych, Dzial Dozymetrii, Polska Akademia Nauk, Warszawa.

PSZONA, Stanislaw; ADAMSKA, Bozena; ZARNOWIECKI, Krzysztof

Whole-body counter for internal contamination control.  
Nukleonika 8 no.8:565-572 '63.

1. Institute of Nuclear Research, Health Physics Department,  
Warsaw.

\*

TITLE: Fallout sampling method

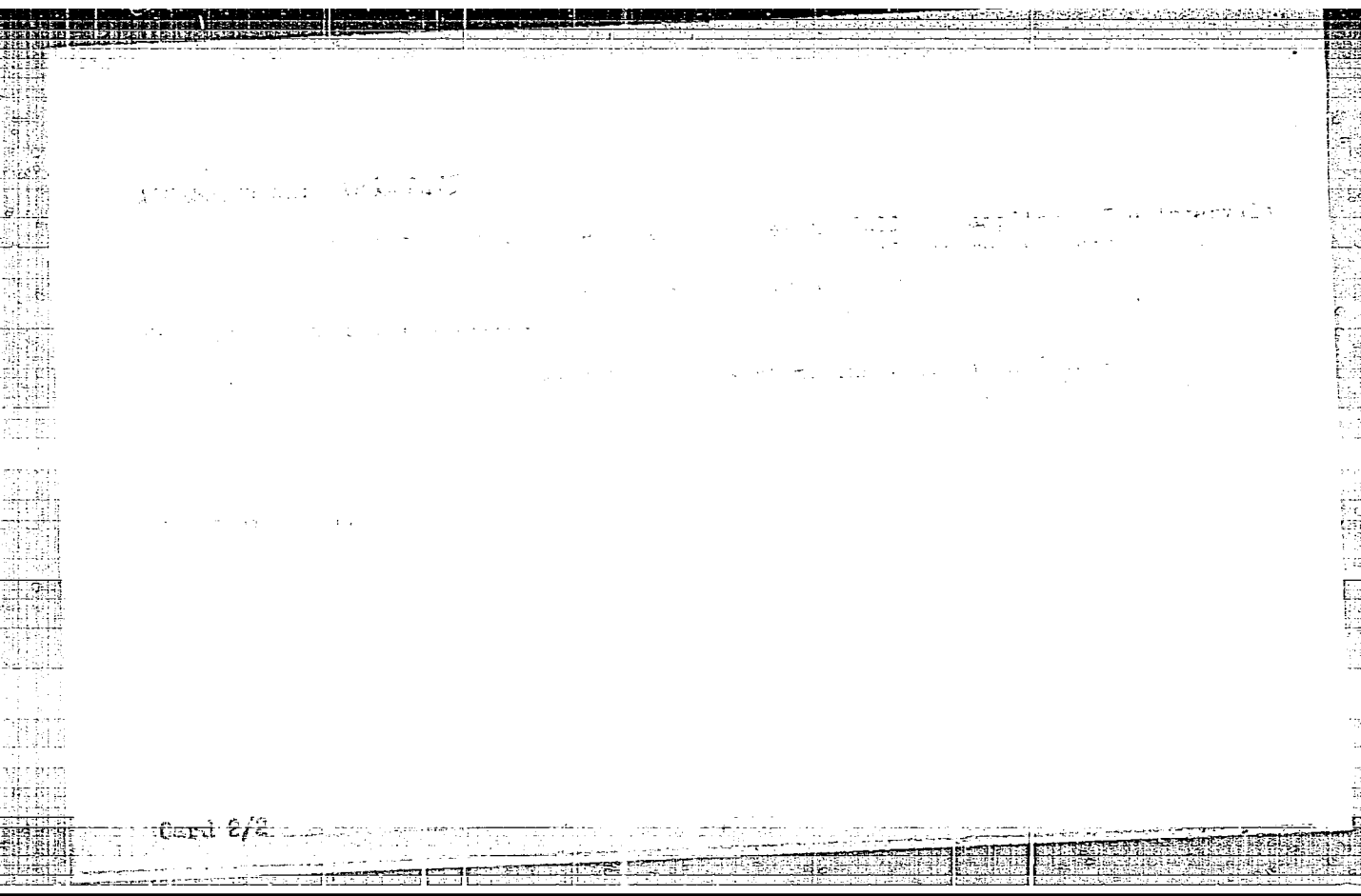
SOURCE: Mekhanika, v. 10, no. 1, 1965, 60-61

English translation of Russian text collection

English translation of Russian text collection. The text is a technical description of a fallout sampling method. It includes details about the equipment used, the sampling procedure, and the results of the sampling. The text is written in a formal, technical style.

On opening the container, the first step is to

Card 1/2



L 22497-65 EMP(a)/T LJP(c) MI  
ACC NR: AP6014481

SOURCE CODE: PO/0046/65/010/007/0453/0454

AUTHOR: Zarnowiecki, KrzysztofORG: Department for Radiological Protection, Institute of Nuclear Research, Warsaw  
(Zaklad Ochrony przed Promieniowaniem Instytut Badan Jadrowych)TITLE: Use of alpha-particles for measurement of mica thickness in end window  
counter

SOURCE: Nukleonika, v. 10, no. 7, 1965, 453-454

TOPIC TAGS: collimation, alpha particle, plutonium

ABSTRACT: A  $^{239}\text{Pu}$  alpha source was collimated to irradiate an area corresponding to 1 mm or less in diameter. The counter was placed in operation and the count rate was plotted as a function of distance in air of the alpha source from the mica window. The straight-line extrapolated end point, R (in cm), of this plot is related to the thickness d in  $\text{mg}/\text{cm}^2$  by the relation:  $d = 1.45/1.23 [3.72 - (R_p/760) \times (288/273 + t)]$ , where p is the atmospheric pressure in mm Hg and t is the air temperature in  $^{\circ}\text{C}$ . Thicknesses of 0 to 3.5  $\text{mg}/\text{cm}^2$  can be measured with a  $^{239}\text{Pu}$  source, and the range of measurement can be extended with the use of higher energy alpha particles. Typical accuracies are 0.1  $\text{mg}/\text{cm}^2$  for uncertainties of  $\pm 0.5$  mm in R. Accuracies of 0.05  $\text{mg}/\text{cm}^2$  are feasible with this method. Orig. art. has: 1 figure. [NA]

SUB CODE: 18 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 004  
SOV REF: 002  
Card 1/1

L 23196-66 INT(m)/T JK  
ACC NR: AP6014482

SOURCE CODE: PO/0046/65/010/007/0457/0458

AUTHOR: Merta, Andrzej; Zarnowiecki, Krzysztof

ORG: Department of Radiological Protection, Institute of Nuclear Research, Warsaw  
(Zaklad Ochrony przed Promieniowaniem Instytut Badan Jadrowych)

TITLE: Application of motor-car engine for control of air pollution with radioactive aerosols

SOURCE: Nukleonika, v. 10, no. 7, 1965, 457-458

TOPIC TAGS: radioactive aerosol, air pollution, vehicle engine, gas filter, radioactivity measurement

ABSTRACT: The carburetor of a running automobile engine is used to provide a negative differential air pressure to pass atmospheric air through a particulate filter. In series with the filter, and ahead of the carburetor suction chamber is a gas-flow meter, which gives a measure of the volume of air passing through a given filter so that the radioactivity count of the filter can be related to the air volume. The advantages of this system and the variations in the methods and the conditions of measurement are discussed. Some yields in terms of volume of air filtered per unit time are given for two different arrangements. Orig. art. has: 2 figures. [NA]

SUB CODE: 18 / SUBM DATE: none

Card 1/1 *PK*

I, 33011-66

ACC NR: AP6024170

SOURCE CODE: PO/0046/65/010/012/0791/0806

AUTHOR: Czerniewski, Michal--Chernevski, M.; Panta, Przemyslaw--Pan'ta, P.;  
Zielczynski, Mieczyslaw--Zol'chin'ski, M.; Zak, Wladyslaw--Zhak, V.; Zapnowiecki,  
Krzysztof--Zharnovotski, K.

ORG: Reactor Exploitation Department, Institute of Nuclear Research, Warsaw; Health  
Physics Department, Institute of Nuclear Research, Warsaw

TITLE: Bone tissue sterilization<sup>19</sup> using reactor fuel gamma radiation

SOURCE: Nukleonika, v. 10, no. 12, 1965, 791-806

TOPIC TAGS: bone, nuclear fuel, gamma radiation, radiation biologic effect,  
radiotherapy

ABSTRACT: An absolute ionization method of measurements of doses absorbed in bone  
tissue, and additional methods were developed. Measurements of spatial dose distri-  
bution in grafts were performed. From the detailed analysis it follows that each  
point of the graft absorbs in sterilization a dose of 3.3 Mrad, with an accuracy of  
20%. In the two years of its application the sterilization method developed has  
proved satisfactory. This was evidenced in sterilization of more than one hundred  
lyophilized human bone grafts successfully used for therapeutical purposes. The  
authors thank Professor K. Ostrowski for his suggestion to use the facilities of the  
ENR reactor for bone tissue sterilization, and also for his valuable comments. The  
authors also thank Mr. J. Aleksandrowicz for over-all assistance in the project, Docent  
Z. Zagorski for discussion on the subject of chemical dosimeters and Mr. T. Berens for  
designing the containers, and general help. Orig. art. has: 12 figures and 14 formulas.

Orig. art. in ENR-18 / 171  
Card 171

SUM DATE: 14Oct65 / ORIG REF: 003 / SOV REF: 001 / OTH REF: 027

6715 176C

Handwritten text, likely a signature or initials, is visible in the center of the page.

ZARNOWSKI, Eugeniusz

Parasitic worms of forest micromammals (Rodentia and Insectivora)  
of the environment of Pulawy. II. Trematoda. Acta parasit. 8 no.8/20:  
127-168 Je '60. (EEAI 9:11)

1. Katedra Parazytologii W.S.R. Lublin.  
(Poland--Rodentia)  
(Poland--Insectivora)  
(Poland--Trematoda)

ZARNOWSKI, Eugeniusz

Current status of the study on the problem of fasciolopsias in domestic ruminating animals in Poland. *Wied. parazyt.* 7 no.1:3-9 '61.

1. Katedra Parazytologii i Chorob Inwazyjnych WSR, Lublin.  
(FASCIOLOPSIS veterinary) (CATTLE dis)

ZARNOWSKI, Eugeniusz (Lublin, Akademicka 11)

Survey of the Polish veterinary parasitology in last three years,  
1958-1961. Wlad parazyt 7 no.4/6:745-762 '61.

1. Department of Parasitology, Veterinary Faculty, Lublin.

ZARNOWSKI, Eugeniusz

Summing up of the debates of veterinary parasitology with  
particular consideration of liver-fluke. Wiad parazyt 7 no.4/6:  
966-967 '61.

ZARNOWSKI, Eugeniusz

Current status of studies on the parasitic fauna of mammals  
in Poland. Wlad. parazyt. 9 no.4:341-347 '63.

1. Katedra Parazytologii i Chorob Inwazyjnych WSR, Lublin.  
(MAMMALS) (PARASITES) (PARASITIC DISEASES)

ZAJNOWSKI, Eugeniusz; CHOWANIEC, Wieslaw; MALCZEMSKI, Andrzej;  
MARANSKI, Czeslaw; ZEBROWSKA, Danuta; JANECEK, Marian

Studies on the therapy of fascioliasis in cattle. III. Hexa -  
chlorophene (Bilevon-Bayer) and 2,2'-dichloro-4,4'-dinitro-  
1,1'-dioxydiphenol (Bilevon M-Bayer, Bilevon 9015-Bayer).  
Wiad. parazyt. 10 no.4:483-485 '64

1. Zaklad Parazytologii i Chorob Inwazyjnych Instytutu Wete-  
rynaryjnego w Pulawach i Zaklad Parazytologii Polskiej Aka-  
demii Nauk, Warszawa.

KAPNOGOSKI, Eugeniusz; KOSCIANIK, Wiesław; PAWLIK, Jerzy; MACHALSKI,  
Andrzej; WILCZAK, Zdzisław; ZEBRZYCKI, Jarosław; JACZYŃSKI, Marian.

Studies on the therapy of fascioliasis in cattle. I. Intramuscular injections of CGI-4. Wied. parazyt. 10 no.1:118-120 1964.

Studies on the therapy of fascioliasis in cattle. II. Hexachlorcyclopentadiene (Dactarol-Biovet and Aylotthane I.C.I.) and 1,1'-bis-trichloromethylbenzene (Hetol-Hoechst).

1. Zakład Parazytologii i Chorob Inwazyjnych Instytutu Weterynaryjnego w Lubawach i Zakład Parazytologii Polskiej Akademii Nauk w Warszawie.

ZARNOWSKI, Eugeniusz

Survey of the Polish veterinary parasitology in last three years  
(1958-1961). Wiadomosci parazyt., 7 no.4/6:745-762 '61.

1. Department of Parasitology, Veterinary Faculty, Lublin.  
(PARASITIC DISEASES veterinary)

ZARNOWSKI, Eurgeiusz; PATYK, Wladyslaw

On the independence of the species *Thominox bohmi* (Supperer, 1953) and its occurrence. *Acta parasit* 8 no.8/20:205-213 Je '60. (EEAI 9:11)

1. Katedra Parazytologii W.S.R. Lublin.  
(Poland--*Thominox*)

POLAND/Diseases of Farm Animals. Diseases Caused by Helminths

R

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 88286

Author : Karnowski, Eugeniusz; Darski Jerzy

Inst : -

Title : Treatment of Ascariasis-Affected Hens.

Orig Pub : Med. weteryn., 1957, 15, No 7, 387-393

Abstract : Various preparations were tested on chicks infected experimentally with *Ascaridia galli*. When CCl<sub>4</sub> was administered once into the crop with a sonde in a 2 ml/kg dose, 100 percent of the birds were cured. Extensive effectiveness (EE) of phenothiazine given with food in a 1.5 g/kg dose amounted to 30 percent, and intensive effectiveness (IE) to 71.9 percent, whereas when a 0.1 ml/kg of wormseed mixed with castor oil was given, IE amounted to 13.9 percent and EE was zero percent. As pyrethrum powder was used in feeds (2 percent), EE equaled 71.4 percent and IE 95.5 percent. Petroleum benzene proved to have little effect and great toxicity. When a 2 ml/kg dose of synthetic benzene was injected into the crop,

Card : 1/2

ZARNOWSKI, Eugeniusz

Critical survey of veterinary parasitological research carried out since the last meeting (1954). Wiadomosci parazyt., Warsz. 3 no.2-3:149-169  
1954.

1. Z Zakladu Parazytologii Wydz. Wet. Wyzszej Szkoły Rolniczej w Lublinie.  
(PARASITOLOGY  
veterinary parasitol. research in Poland (Pol))  
(MEDICINE, VETERINARY  
parasitol. research in Poland (Pol))

ZARNOWSKI, Eugeniusz; DARSKI, Jerzy (Pulawy)

Tests of effectiveness of various drugs in control of helminthiasis in fowl. Wiadomosci parazyt., Warsz. 2 no.5 Suppl:143-144 1956.

1. Zaklad Parazytologii i Chorob Inwazyjnych PIW.  
(ASCARIASIS, prevention and control,  
Ascaridia galli infect. in fowl, effectiveness of  
various drugs (Pol))  
(ANTHELMINTICS, therapeutic use,  
Ascaridia galli infect. in fowl, comparison of various  
drugs (Pol))  
(FOWLS, DOMESTIC, diseases,  
Ascaridia galli infect., ther. eff. of various drugs (Pol))

ZARNOWSKI, Eugeniusz (Lublin)

Helminthological fauna of forest mammals (Insectivora and Rodentia) in the Pulawy region. II Trematoda. Wiadomosci parazyt., Warsz. 2 no.5 Suppl:239 1956.

1. Zaklad Parazytologii i Chorob Inwazyjnych WSR.  
(TREMATODE INFECTIONS, epidemiology,  
in small mammals (Pol))

ZARNOWSKI, Eugeniusz

Achievements of the school of parasitology of prof. Dr.  
Witold Stefanski. Wiadomosci parazyt., Warsz. 2 no.3:  
139-152 1956.

(PARASITOLOGY, education,  
in Poland, contribution of W. Stefanski (Pol))  
(BIOGRAPHIES,  
Stefanski, Witold (Pol))

ZARNOWSKI, Eugeniusz

Observations on cultivation in vitro and on the development of Dictyocaulus filaria in guinea pigs; preliminary communication. Wiadomosci parazyt., Warsz. 4 no.5-6:465-466; Engl. transl. 466-467 1958.

1. Z Zakladu Parazytologii i Chorob Inwazyjnych WSR w Lublinie.

(NEMATODES,

Dictyocaulus filaria, cultivation in vitro & growth in guinea pigs (Pol))

ZARNOWSKI, Eugeniusz

Polish veterinary parasitology in the past 20 years. Wiad.  
parazyt. 10 no.1:3-13 '64.

1. Katedra Parazytologii i Choroób Inwazyjnych Wyższej Szkoły  
Rolniczej, Lublin.

ZARNOWSKI, Eugeniusz

Current trends in the control of invasive disease of domestic animals. Wiad. parazyt. 11 no.1:265-268 '65.

1. Katedra Parazytologii i Chorob Inwazyjnych Wydziału Weteryn.  
Szkoły Głównej Gospodarstwa Wiejskiego, Warszawa.

ZARNOWSKI, Eugeniusz

Studies on drug therapy during larval stages of Fasciolosis.  
Wlad. parazyt. 10 no. 476-477 '66

1. Zakład Parazytologii i Chorob zakaźnych Instytutu Weterynaryjnego w Puławach.

ZARNOWSKI, Jan, mgr inz.

Falling strength testing of electronic devices. Prace inst  
teletechm 8 no.2:135-138 '64

ZARNOWSKI, Jan, mgr. inż.

Significance of subtropical climate for the electronic industry.  
Przegl telekcm 35 [i.e. 36] no.7:208-211 J1 '63.

1. Instytut Tele- i Radiotechniczny, Warszawa.

P.T.A.

ZARNOWSKI, L.

metallurgy

538

631.73

Zarnowski L. Hot Plastic Processing of Iron and Steel Part 1.

"Gorąca przeróbka plastyczna żelaza i stali". Katowice, 1947, Centr. Zarz. Przem. Hutn., 4', pp. 179, 198 figs.

Hand forging. Water-driven hammers. Steam hammers. The theory of forging. Determining the power of a hammer and weight of the ram. Steam hammer operation. Determining the chief dimensions of hammers. Foundations. Steam hammer elements. Free forging with a hammer. Forging with large hammers. Belt-driven, pneumatic, strap and steam hammers for drop forging. Belt-driven presses. Drop forging. Notes on dies and drop forging. Forge planning and equipment.

1ST AND 2ND CODES

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH CODES

COMMON ELEMENTS

COMMON VARIANTS INDEX

100

101

102

103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

150

151

152

153

154

155

156

157

158

159

160

161

162

163

164

165

166

167

168

169

170

171

172

173

174

175

176

177

178

179

180

181

182

183

184

185

186

187

188

189

190

191

192

193

194

195

196

197

198

199

200

201

202

203

204

205

206

207

208

209

210

211

212

213

214

215

216

217

218

219

220

221

222

223

224

225

226

227

228

229

230

231

232

233

234

235

236

237

238

239

240

241

242

243

244

245

246

247

248

249

250

251

252

253

254

255

256

257

258

259

260

261

262

263

264

265

266

267

268

269

270

271

272

273

274

275

276

277

278

279

280

281

282

283

284

285

286

287

288

289

290

291

292

293

294

295

296

297

298

299

300

301

302

303

304

305

306

307

308

309

310

311

312

313

314

315

316

317

318

319

320

321

322

323

324

325

326

327

328

329

330

331

332

333

334

335

336

337

338

339

340

341

342

343

344

345

346

347

348

349

350

351

352

353

354

355

356

357

358

359

360

361

362

363

364

365

366

367

368

369

370

371

372

373

374

375

376

377

378

379

380

381

382

383

384

385

386

387

388

389

390

391

392

393

394

395

396

397

398

399

400

401

402

403

404

405

406

407

408

409

410

411

412

413

414

415

416

417

418

419

420

421

422

423

424

425

426

427

428

429

430

431

432

433

434

435

436

437

438

439

440

441

442

443

444

445

446

447

448

449

450

451

452

453

454

455

456

457

458

459

460

461

462

463

464

465

466

467

468

469

470

471

472

473

474

475

476

477

478

479

480

481

482

483

484

485

486

487

488

489

490

491

492

493

494

495

496

497

498

499

500

501

502

503

504

505

506

507

508

509

510

511

512

513

514

515

516

517

518

519

520

521

522

523

524

525

526

527

528

529

530

531

532

533

534

535

536

537

538

539

540

541

542

543

544

545

546

547

548

549

550

551

552

553

554

555

556

557

558

559

560

561

562

563

564

565

566

567

568

569

570

571

572

573

574

575

576

577

578

579

580

581

582

583

584

585

586

587

588

589

590

591

592

593

594

595

596

597

598

599

600

601

602

603

604

605

606

607

608

609

610

611

612

613

614

615

616

617

618

619

620

621

622

623

624

625

626

627

628

629

630

631

632

633

634

635

636

637

638

639

640

641

642

643

644

645

646

647

648

649

650

651

652

653

654

655

656

657

658

659

660

661

662

663

664

665

666

667

668

669

670

671

672

673

674

675

676

677

678

679

680

681

682

683

684

685

686

687

688

689

690

691

692

693

694

695

696

697

698

699

700

701

702

703

704

705

706

707

708

709

710

711

712

713

714

715

716

717

718

719

720

721

722

723

724

725

726

727

728

729

730

731

732

733

734

735

736

737

738

739

740

741

742

743

744

745

746

747

748

749

750

751

752

753

754

755

756

757

758

759

760

761

762

763

764

765

766

767

768

769

770

771

772

773

774

775

776

777

778

779

780

781

782

783

784

785

786

787

788

789

790

791

792

793

794

795

796

797

798

799

800

801

802

803

804

805

806

807

808

809

810

811

812

813

814

815

816

817

818

819

820

821

822

823

824

825

826

827

828

829

830

831

832

833

834

835

836

837

838

839

840

841

842

843

844

845

846

847

848

849

850

851

852

853

854

855

856

857

858

859

860

861

862

863

864

865

866

867

868

869

870

871

872

873

874

875

876

877

878

879

880

881

882

883

884

885

886

887

888

889

890

891

892

893

894

895

896

897

898

899

900

901

902

903

904

905

906

907

908

909

910

911

912

913

914

915

916

917

918

919

920

921

922

923

924

925

926

927

928

929

930

931

932

933

934

935

936

937

938

939

940

941

942

943

944

945

946

947

948

949

950

951

952

953

954

955

956

957

958

959

960

961

962

963

964

965

966

967

968

969

970

971

972

973

974

975

976

977

978

979

980

981

982

983

984

985

986

987

988

989

990

991

992

993

994

995

996

997

998

999

1000

1001

1002

1003

1004

1005

1006

1007

1008

1009

1010

1011

1012

1013

1014

1015

1016

1017

1018

1019

1020

1021

1022

1023

1024

1025

1026

1027

1028

1029

1030

1031

1032

1033

1034

1035

1036

1037

1038

1039

1040

1041

1042

1043

1044

1045

1046

1047

1048

1049

1050

1051

1052

1053

1054

1055

1056

1057

1058

1059

1060

1061

1062

1063

1064

1065

1066

1067

1068

1069

1070

1071

1072

1073

1074

1075

1076

1077

1078

1079

1080

1081

1082

1083

1084

1085

1086

1087

1088

1089

1090

1091

1092

1093

1094

1095

1096

1097

1098

1099

1100

1101

1102

1103

1104

1105

1106

1107

1108

1109

1110

1111

1112

1113

1114

1115

1116

1117

1118

1119

1120

1121

1122

1123

1124

1125

1126

1127

1128

1129

1130

1131

1132

1133

1134

1135

1136

1137

1138

1139

1140

1141

1142

1143

1144

1145

1146

1147

1148

1149

1150

1151

1152

1153

1154

1155

1156

1157

1158

1159

1160

1161

1162

1163

1164

1165

1166

1167

1168

1169

1170

1171

1172

1173

1174

1175

1176

1177

1178

1179

1180

1181

1182

1183

1184

1185

1186

1187

1188

1189

1190

1191

1192

1193

1194

1195

1196

1197

1198

1199

1200

1201

1202

1203

1204

1205

1206

1207

1208

1209

1210

1211

1212

1213

1214

1215

1216

1217

1218

1219

1220

1221

1222

1223

1224

1225

1226

1227

1228

1229

1230

1231

1232

1233

1234

1235

1236

1237

1238

1239

1240

1241

1242

1243

1244

1245

1246

1247

1248

1249

1250

1251

1252

1253

1254

1255

1256

1257

1258

1259

1260

1261

1262

1263

1264

1265

1266

1267

1268

1269

1270

1271

1272

1273

1274

1275

1276

1277

1278

1279

1280

1281

1282

1283

1284

1285

1286

1287

1288

1289

1290

1291

1292

1293

1294

1295

1296

1297

1298

1299

1300

1301

1302

1303

1304

1305

1306

1307

1308

1309

1310

1311

1312

1313

1314

1315

1316

1317

1318

1319

1320

1321

1322

1323

1324

1325

1326

1327

1328

1329

1330

1331

1332

1333

1334

1335

1336

1337

1338

1339

1340

1341

1342

1343

1344

1345

1346

1347

1348

1349

1350

1351

1352

1353

1354

1355

1356

1357

1358

1359

1360

1361

1362

1363

1364

1365

1366

1367

1368

1369

1370

1371

1372

1373

1374

1375

1376

1377

1378

1379

1380

1381

1382

1383

1384

1385

1386

1387

1388

1389

1390

1391

1392

1393

1394

1395

1396

1397

1398

1399

1400

1401

1402

1403

1404

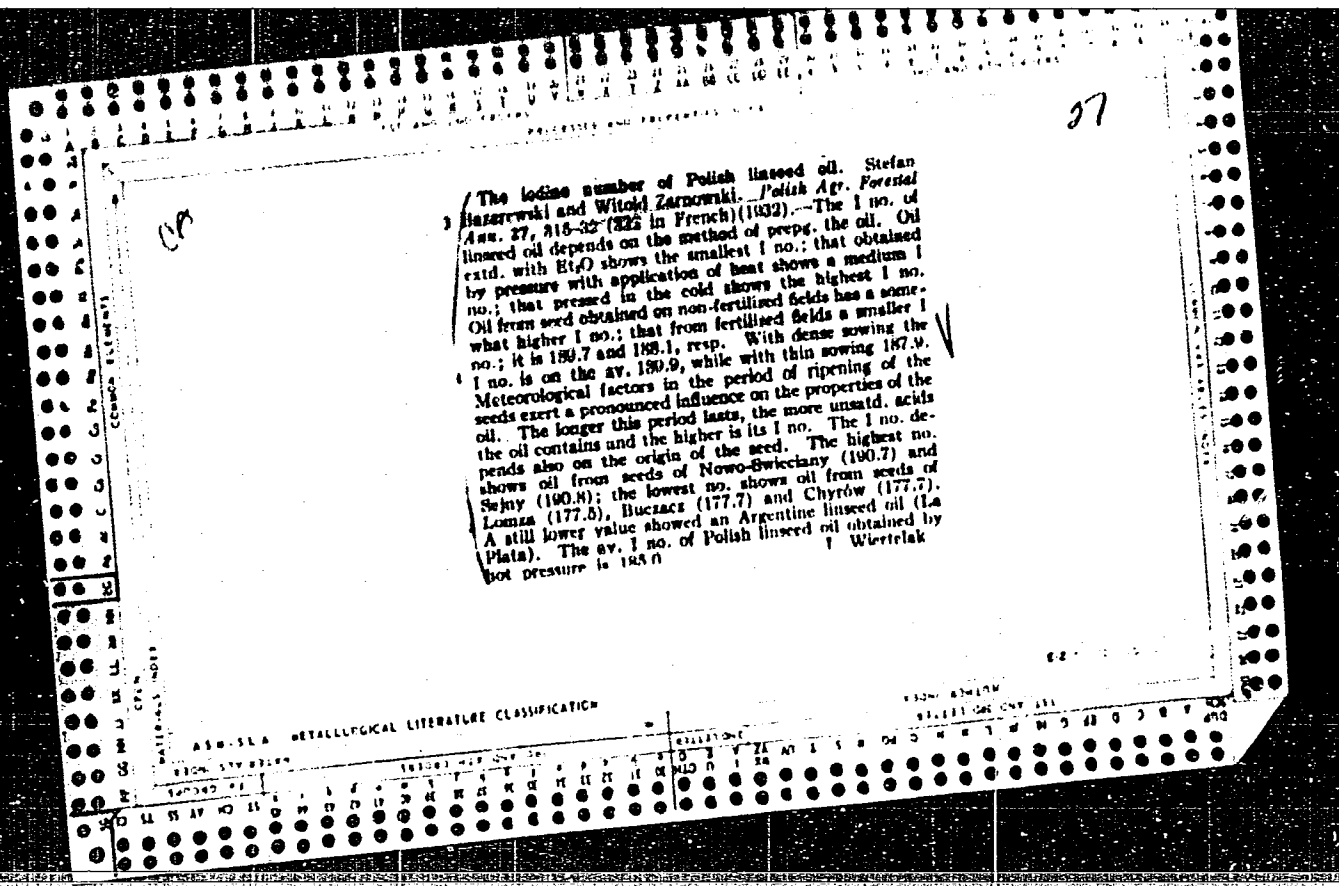
1405

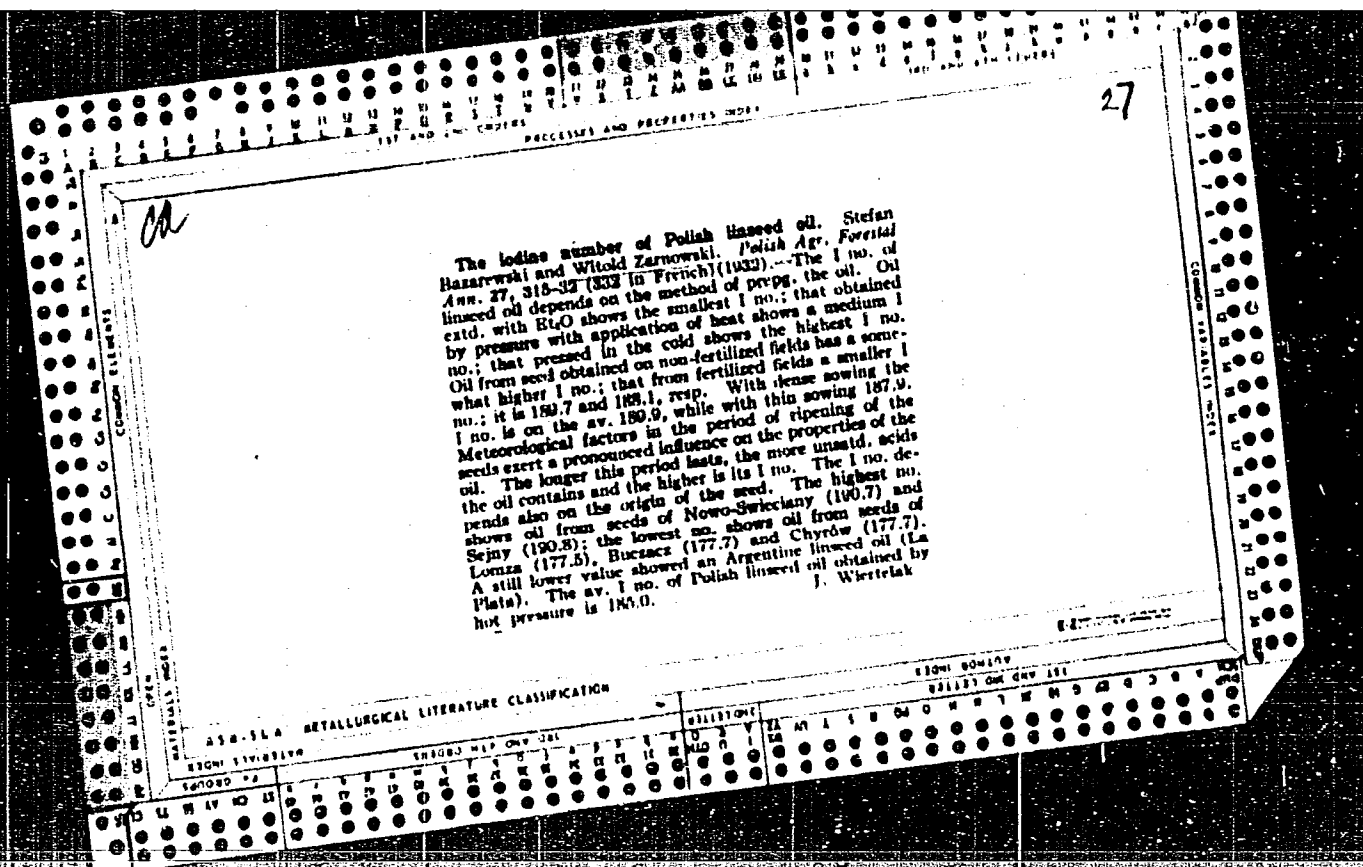
1406

1407

ZARNOWSKI, Wladyslaw, dr inz.

Heating stove for small section rolling mills. Hutnik P 30  
no.9:299-301 S '63.





ZARNYA, SHERBENESKU.

RUMANIA / Microbiology. Technical Microbiology.

F-3

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 21889

Author : Zarnya, Sherbenesku

Inst :

Title : Materials for Study of Flax Retting in the Rumanian People's Republic. I. Flax Retting Under Laboratory Conditions. A Preliminary Report.

Orig Pub: Rev. Univ. "C.I. Parhon" si Politehn. Bucuresti. Ser. stiins. natur., 1955, No 8, 195-199.

Abstract: A study was conducted on the dynamics of development of microflora related to anaerobic, warm flax retting. The retting process under laboratory conditions lasted 72 hours. The main stimulants of the retting process were isolated in pure form -- Granulobacter pectinovorum and Clostridium felsineum. During the preliminary phase, a double spored Minervin "liquid rod" was constantly found.

-30-

Card : 1/1

ZAROBYAN, A.I., inzh.; AZOTYAN, N.N., inzh.; AVETISYAN, G.M., inzh.

Activated clays of Armenia. Masl.-zhir.prom. 25 no.10:36-37  
'59. (MIRA 13:2)

(Armenia--Clay)

ZAROCHENTSEV, G.G., inzh.; LEBEDEV, F.M., inzh.; STANKEVICH, G.I., inzh.;  
PET'KO, V.M., kand.tekhn.nauk; FAYERSETEYN, D.G., inzh.

Gas burner with peripheral gas supply for large boiler units.  
Elek. sta. 33 no.7:12-15 J1 '62. (MIRA 15:8)  
(Boilers) (Gas burners)

ZAROCHENTSEV, G.G., inzh.

Redesigning of the burners of the TP-100 boiler of the Zmiyev  
State Regional Electric Power Plant. Elek.sta. 33 no.11:81-82  
N '62. (MIRA 15:12)

(Zmiyev—Electric power plants) (Boilers)

ZAROCHEVSEV, G.G., inzh.

Adjustment and operation of a regenerative rotary air preheater.  
Elok. sta. 34 no.3:76-77 Mr '63. (MIRA 16:3)  
(Air preheaters)

LAURENCE, G. G., 1928.

accelerated testing of clock-type drum boilers. Blisk. Stat.  
35 no. 2, 79-80 Jan. '64. (MIRA 17, 6)

ZAROCHEN TSEV, C.V.

PLATE 1 (SEE ENCL. 1)

Investigate details similar to previously mentioned  
problems and equipment (including  
Article, Model of Ball-Joint, etc.)  
1956 and 1957. (See Encl. 1)  
1958. See 2. (See Encl. 1)

Engineer IV. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

Engineer V. Kuznetsov, Doctor of Technical Sciences,  
Candidate of Technical Sciences, Professor, Testing the Strength  
of Steel Structures (Moscow). See Encl. 1

VI/100/200  
9-7-50

Card 4/4

(1)

S/137/62/000/002/096/144  
A060/A101

AUTHOR: Zarochentsev, G. V.

TITLE: Ultrasonic control of the depth of rail casehardening

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 73, abstract 21491  
("Tr. Vses. n.-i. in-ta zh.-d. transp.", 1961, no. 216, 52, 111.)

TEXT: An ultrasonic method is proposed for fast approximate evaluation and control of the depth of casehardening in rails, and the theoretical fundamentals of the damping of ultrasonic vibrations in metal are set forth. Methods are described for the control of depth and partial determination of the structure in the casehardened zone. The design of an instrument for controlling the casehardening zone is described in detail. The instrument is a modified version of a supersonic defectoscope operating on the two-probe principle with pulse excitation. The main parts of the instrument are: a sweep generator, amplifier of the sweep generator, cathode-ray tube, receiver amplifier, receiving probe, and emitting probe. The electrical circuit and the overall view of the instrument are given. Comparison of the results from the investigation by the new methods of rails subjected to casehardening with the data of metallographic

Card 1/2

S/137/62/000/002/096/144  
A060/A101

Ultrasonic control of the depth ...

analysis and tests for hardness and microhardness yields a good agreement. It is pointed out that the method described is applicable only in cases when, in the inhomogeneous metal, the structure becomes coarser with the depth increasing. There are 24 references.

Z. Fridman

[Abstracter's note: Complete translation]

Card 2/2

ZAROCHENTSEV, G.V., kand.tekhn.nauk

Ultrasonic testing method for studying the structural  
nonuniformity of rails. Vest.TSNII MPS 21 no.6:33-36  
(MIRA 15:9)

'62.

(Railroads—Rails—Defects)  
(Ultrasonic testing)

1. 1992. *Estuaries and Coasts*, 15: 103-113.

1. 1940-1941 1942-1943 1944-1945 1946-1947 1948-1949 1950-1951 1952-1953 1954-1955 1956-1957 1958-1959 1960-1961 1962-1963 1964-1965 1966-1967 1968-1969 1970-1971 1972-1973 1974-1975 1976-1977 1978-1979 1980-1981 1982-1983 1984-1985 1986-1987 1988-1989 1990-1991 1992-1993 1994-1995 1996-1997 1998-1999 2000-2001 2002-2003 2004-2005 2006-2007 2008-2009 2010-2011 2012-2013 2014-2015 2016-2017 2018-2019 2020-2021 2022-2023 2024-2025 2026-2027 2028-2029 2030-2031 2032-2033 2034-2035 2036-2037 2038-2039 2040-2041 2042-2043 2044-2045 2046-2047 2048-2049 2050-2051 2052-2053 2054-2055 2056-2057 2058-2059 2060-2061 2062-2063 2064-2065 2066-2067 2068-2069 2070-2071 2072-2073 2074-2075 2076-2077 2078-2079 2080-2081 2082-2083 2084-2085 2086-2087 2088-2089 2090-2091 2092-2093 2094-2095 2096-2097 2098-2099 2100-2101 2102-2103 2104-2105 2106-2107 2108-2109 2110-2111 2112-2113 2114-2115 2116-2117 2118-2119 2120-2121 2122-2123 2124-2125 2126-2127 2128-2129 2130-2131 2132-2133 2134-2135 2136-2137 2138-2139 2140-2141 2142-2143 2144-2145 2146-2147 2148-2149 2150-2151 2152-2153 2154-2155 2156-2157 2158-2159 2160-2161 2162-2163 2164-2165 2166-2167 2168-2169 2170-2171 2172-2173 2174-2175 2176-2177 2178-2179 2180-2181 2182-2183 2184-2185 2186-2187 2188-2189 2190-2191 2192-2193 2194-2195 2196-2197 2198-2199 2200-2201 2202-2203 2204-2205 2206-2207 2208-2209 2210-2211 2212-2213 2214-2215 2216-2217 2218-2219 2220-2221 2222-2223 2224-2225 2226-2227 2228-2229 2230-2231 2232-2233 2234-2235 2236-2237 2238-2239 2240-2241 2242-2243 2244-2245 2246-2247 2248-2249 2250-2251 2252-2253 2254-2255 2256-2257 2258-2259 2260-2261 2262-2263 2264-2265 2266-2267 2268-2269 2270-2271 2272-2273 2274-2275 2276-2277 2278-2279 2280-2281 2282-2283 2284-2285 2286-2287 2288-2289 2290-2291 2292-2293 2294-2295 2296-2297 2298-2299 2300-2301 2302-2303 2304-2305 2306-2307 2308-2309 2310-2311 2312-2313 2314-2315 2316-2317 2318-2319 2320-2321 2322-2323 2324-2325 2326-2327 2328-2329 2330-2331 2332-2333 2334-2335 2336-2337 2338-2339 2340-2341 2342-2343 2344-2345 2346-2347 2348-2349 2350-2351 2352-2353 2354-2355 2356-2357 2358-2359 2360-2361 2362-2363 2364-2365 2366-2367 2368-2369 2370-2371 2372-2373 2374-2375 2376-2377 2378-2379 2380-2381 2382-2383 2384-2385 2386-2387 2388-2389 2390-2391 2392-2393 2394-2395 2396-2397 2398-2399 2400-2401 2402-2403 2404-2405 2406-2407 2408-2409 2410-2411 2412-2413 2414-2415 2416-2417 2418-2419 2420-2421 2422-2423 2424-2425 2426-2427 2428-2429 2430-2431 2432-2433 2434-2435 2436-2437 2438-2439 2440-2441 2442-2443 2444-2445 2446-2447 2448-2449 2450-2451 2452-2453 2454-2455 2456-2457 2458-2459 2460-2461 2462-2463 2464-2465 2466-2467 2468-2469 2470-2471 2472-2473 2474-2475 2476-2477 2478-2479 2480-2481 2482-2483 2484-2485

Received: Oita-Tenrijiya, Vol. 2, 1977, 1978

TOPIC TAGS: ultrasonic equipment, metallographic analysis, flaw detection

**ABSTRACT:** This article discusses means for improving methods of inspection of hardened metals. It was found that acoustic reverberation and metal grain scatter

limited. Homogeneity causes large errors in measurements, therefore the method is not suitable for some materials such as polymers. Structural reconstruction

Card 1/2

L 63447-65

ACCESSION NR: 7P5015101

the form of the signal and its variation with distance between the transmitting and receiving probes. The structure of the hardened layer to a depth of not more than 20 mm is evaluated according to the ratio of the amplitude of the signal to the structural reverberational noise level. The greater this ratio the more dispersed the structure. Orig. art. has: 6 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo

Card 2/2

1 35525-65 EMI(E)/I/EMI(E)/EMI(S)/EMI(H)/EMI(C) Feb 13P(c) 5P

REFUGES: AFTOCNCHGSOZ, U. Y.; IUSKEY CB, I. B.

TITLE: Reverberation method for inspecting metallic structures

SOURCE: Zavodskaya laboratoriya, v. 31, no. 2, 1965, 198-201

TOPIC TAGS: <sup>6</sup>ultrasound, <sup>4</sup>metal structure, hardened structure, steel, aluminum, zinc alloy, metal grain structure, perlite, martensite

1554100 1 reverberation method for inspecting metallic structures

WISCONSIN 14500075

composition. The results are shown in Fig. 2 on the Enclosure. Orig. art. has:

ABSTRACT: This is a preliminary report on the results of the investigation of the

NO REF SOV: 000

OTHER: 001

ACCESSION NUMBER 125105476

ENCLOSURE: 01

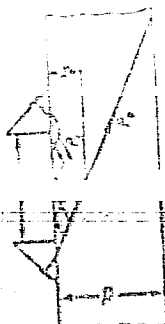


Fig. 1. Acoustic scheme of the reverberation method for inspecting the structure of metals

Card 3/4

ACCESSION NR: AP5005476

ENCLOSURE 02

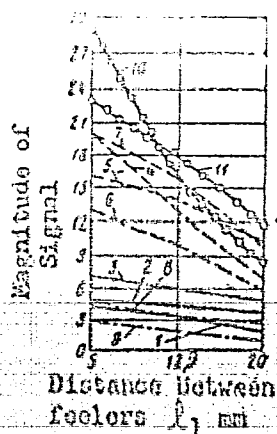


Fig. 2. Results of investigating 11 specimens of railroad rails  
 showing the dependence of the magnitude of ultrasonic vibra-  
 tion signal on the distance between factors  $l_1$  mm.  
 The curves are numbered in accordance with the order of the  
 specimens of the rails investigated in the experimental part.